

Explore the export performance of textiles and apparel 'Made in the USA': a firm-level analysis

Kendall Keough & Sheng Lu

To cite this article: Kendall Keough & Sheng Lu (2021) Explore the export performance of textiles and apparel 'Made in the USA': a firm-level analysis, The Journal of The Textile Institute, 112:4, 610-619, DOI: [10.1080/00405000.2020.1768785](https://doi.org/10.1080/00405000.2020.1768785)

To link to this article: <https://doi.org/10.1080/00405000.2020.1768785>



Published online: 20 May 2020.



Submit your article to this journal [↗](#)



Article views: 58



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)

ARTICLE



Explore the export performance of textiles and apparel ‘Made in the USA’: a firm-level analysis

Kendall Keough and Sheng Lu

Department of Fashion and Apparel Studies, University of Delaware, Newark, DE, USA

ABSTRACT

This study explored the export behaviors of the U.S. textile and apparel (T&A) manufacturers and related affecting factors. Based on a logistic regression analysis of the 122 U.S. T&A manufacturers collected from the Office of Textiles and Apparel (OTEXA) ‘Made in the USA’ database, the study finds that the product category and the size of the firm were both statistically significant factors that affected the U.S. T&A manufacturer’s likelihood of engaged in exports. The result of contingency analysis also shows that Western Hemisphere was a preferred export destination for the U.S. T&A manufacturers than other regions in the world. The findings of the study significantly enhanced our understanding of the export behaviors of the U.S. T&A manufacturers and the state of the U.S. T&A industry in today’s global economy.

ARTICLE HISTORY

Received 29 January 2020
Accepted 10 May 2020

KEYWORDS

Made in the USA; textile and apparel; export behaviors; Western Hemisphere

Introduction

In recent years, there has been growing attention to textile and apparel (T&A)¹ made in the United States (refers to as ‘Made in the USA’ T&A in this paper),² both nationally and internationally (Freund et al., 2018). Especially with the changing trade environment, including the higher cost of importing, both the U.S. and international producers alike have found more incentives for making T&A directly in the U.S. (Levinson, 2018). The U.S. T&A manufacturers also benefit from customers’ increasing demand for speed to market, thanks to its advanced infrastructure and availability of capital investment (Tate et al., 2014). For example, as shown in Table 1 the value of the U.S. textile manufacturing totaled \$18.9 billion in 2018, a record high since 2016 (BEA, 2019).

On the demand side, as the T&A market is turning ever more global and the branding of ‘Made in the USA’ is becoming more appealing to consumers around the world, the U.S. T&A manufacturers are increasingly engaged in exporting (Freund et al., 2018; Markowitz, 2012; USITC, 2016). Statistics show that the value of the U.S. T&A exports totaled \$23.5 billion in 2018, a new high since 2016, and up nearly 20% from ten years ago (OTEXA, 2019a). The U.S. T&A exports also indicate unique patterns. Notably, as much as 70% of the U.S. exports currently go to the Western Hemisphere, which includes several important the U.S. trading partners, such as members of the North American Free Trade Agreement (NAFTA) and the Dominican Republic-Central America Free Trade Agreement (CAFTA-DR) (Jackson, 2016; Moran, 2019).

There has been an abundance of studies examining the state and competitiveness of T&A ‘Made in the USA’, such

as Freund et al. (2018), Harris (2018), and Saki et al. (2019). However, most of these studies treat the T&A industry as a whole without taking a detailed look at the business activities and economic behaviors of T&A manufacturers. On the other hand, some other studies looked at the business strategies and financial performance of the U.S. T&A firms but mostly focused on fashion brands and apparel retailers’ importing or sourcing behaviors, such as Lu (2018) and Hodges and Link (2018). Instead, the academic literature addressing the export of textiles and apparel ‘Made in the USA’, especially at that micro firm-level, remains limited.

This study intends to specifically explore the export behavior of the U.S. T&A manufacturers. This is an important study because: First, the findings of the study will fulfill a critical research gap and help enhance our understanding of the export behaviors of the U.S. T&A manufacturers. Second, the findings of the study will help us gain more insights into the current state of the the U.S. T&A manufacturing that operates in today’s world economy. Third, the results of this study will also provide valuable inputs for the U.S. T&A manufacturers interested in exploring the international market (Dicken, 2015). Additionally, the U.S. trade policymakers may also find the findings of the study relevant to their policymaking in support of the promotion of the U.S. T&A products in the world marketplace.

The rest of the paper is composed of four parts. The second part provides an overview of related theories and literature that explain the export behaviors of the U.S. T&A manufacturers. The third part is a detailed description of the research methods and data source of this study. The fourth section presents and discusses the empirical results.

Table 1. Value of the U.S. T&A output unit: \$billion.

Year/value of output	2005	2010	2015	2016	2017	2018
Textiles	\$20.1	\$15.5	\$17.9	\$18.4	\$18.3	\$18.9
Apparel	\$13.8	\$10.4	\$9.7	\$9.6	\$9.3	\$9.2

Data source: BEA (2019).

Note: 'Textiles' include the North American Industry Classification System (NAICS) code 313 and 314; 'Apparel' includes the NAICS code 315.

The last part includes key findings and the discussion of future research agendas.

Literature review

This section will go over pertinent international trade theories, the current studies exploring the state of the U.S. T&A industry and its exports, and factors that affect the export behaviors of the U.S. T&A manufacturers from a theoretical perspective.

Related trade and firm theories

Regarding the state of the U.S. T&A manufacturing and T&A manufacturers' export behaviors, several classic trade and firm theories provide valuable insights from a theoretical perspective.

The first related theory is the comparative advantage theory, proposed by David Ricardo in 1816. This theory considers the ability that an economy possesses to produce goods and services at either a relatively lower cost or relatively higher productivity than its trading partners. This theory contends that if countries specialize in making and exporting products based on their respective comparative advantage shaped by the abundance of corresponding production factors (such as labor, capital, and land), and allow free trade to occur, all countries will be better off than the alternative (Ruffin, 2017).

The comparative advantage theory suggests that the export intention and performance of the U.S. manufacturers should be different across sectors depending on their relative capital and technology intensity. Notably, as one of the most advanced economies in the world, the United States should enjoy a comparative advantage above most countries in making and exporting capital-intensive products but has a disadvantage in producing labor-intensive products (Congressional Research Service, 2019a). More specifically, within the T&A sector, textile manufacturing is capital-intensive, which requires using highly sophisticated machines and automation technology today (Dickerson, 1999). Understandably, as a developed economy abundant with these production endowments, the United States enjoys a comparative advantage in manufacturing and exporting textile products, such as yarns, fabrics, and technical textiles. In comparison, apparel manufacturing, particularly the sewing and cutting process, remains highly labor-intensive (Dickerson, 1999). Not surprisingly, developing countries, where cheap labor is relatively abundant, enjoys a comparative advantage in making and exporting apparel products rather than the United States (WTO, 2019).

The second related theory is the resource-based view theory (RBV), which aims to answer why some firms outperform others financially or are more likely to be successful in certain business activities (Conner & Prahalad, 1996; Barney & Arikan, 2001). Resources that are rare, valuable, and difficult to imitate, allow firms to adopt business strength in the market competition (Sirmon & Hitt, 2003). According to the RBV theory, larger companies theoretically have a greater ability to explore international markets and engagement in exports (Ha-Brookshire & Dyer, 2009; Lu, 2019). Notably, compared with small and medium-sized firms that typically face financial and staff restraints, firms larger in size, in general, are more likely to leverage its unique resources successfully and navigate the complicated legal, economic and business environments of foreign markets (Baldauf et al., 2000; Moen & Servais, 2002). Hirsch and Adar (1974) also contended that the size of the firm is a crucial determinant in its export performance due to the impact of size on that firm's competencies, such as financial performance. Some recent survey studies further suggest that the U.S. T&A firms larger in size are more likely to have regional headquarters outside the United States and sell products in these international markets (Lu, 2019).

Third, Michael Porter's 'five forces model' provides additional valuable insights into the competitiveness and export behavior of the U.S. T&A manufacturers. Specifically, the 'five forces model' theory argues that the competitiveness of a specific industry in a particular country is shaped by five major factors, namely the threat of substitute products or services, bargaining power of suppliers, threat of new entrants, bargaining power of buyers and how the buyers impact rivalry among existing competitors (Porter, 1998).

According to Porter's 'five forces model', the United States is at better position manufacturing and exporting textile products than apparel. On the one hand, because of the demanding technology, capital and knowledge requirements for making most textile products, the U.S. textile manufacturers, in general, are protected by relatively high entry barriers to the industry with few concerns about potential competitors and substitution of their products, in both the U.S. and international markets (NCTO, 2019). Statistics show that the United States remained the world's fourth-largest textile exporter in 2018, a position it has kept for decades (WTO, 2019). The competitiveness of the U.S. production and exports in higher-tech and capital intensive categories, such as technical textiles, demonstrated an even more stable competitive advantage on the world stage (Chi, Kilduff & Dyer, 2005). In comparison, since apparel manufacturing requires minimum technology and capital inputs, the low entry-barriers imply a constant threat of new entrants, limited bargaining power of apparel manufacturers over buyers (i.e. importers, brands, and retailers) and intensive competition in the global marketplace (Dickerson, 1999; Krueger, 1996). Although the United States used to be a leading apparel producer and exporter, developing countries such as China, Vietnam, and Bangladesh had quickly caught up and played a dominant role in the world apparel export market as of 2018 (WTO, 2019).

On the other hand, as implied by Porter's 'five forces model', building an efficient and complete supply chain system is crucial to the sustainable success of the the U.S. T&A industry. While the U.S. textile manufacturers can receive constant support from other supporting industries locally such as chemistry, agriculture, energy, and machinery, the U.S. apparel manufacturers are struggling with the lack of a supporting industry network, from the supply of fabrics, accessories to research and development (May-Plumlee & Little, 1998).

Factors support T&A 'Made in the USA' and their export

A review of existing literature shows several factors support the production and export of 'Made in the USA' T&A products in today's world economy.

The first factor is consumers' preference. T&A is a buyer-driven industry, as consumers drive fashion trends and manufacturing through their purchasing power (Gereffi, 1999). Notably, consumers both in the United States and in many other parts of the world are demonstrating growing enthusiasm about T&A products labeled as 'Made in the USA', which are regarded as being of high quality, technology-driven, sophisticated and involving less environmental or social responsibility concerns (Freund et al., 2018; Levinson, 2018). Some empirical studies further show that consumers both in the United States and internationally are willing to pay a premium price for 'Made in the USA' T&A products. For example, studies show that consumers were willing to pay around 10% more for the U.S.-made clothing produced from recycled plastics, along with various foods and environmentally friendly materials (Anstine, 2000; Hamzaoui Essoussi & Linton, 2010; Lim et al., 2013; Vlosky et al., 1999). Additionally, Swanson and Horridge (2002) found tourism positively impacts the growth of 'Made in the USA' T&A products due to the industry's natural support of local economies. Asian tourists, for example, were found willing to pay up to 30% extra for fashion products and brands labeled 'Made in the USA' or alike while on vacation in the United States (Jin et al., 2020).

The second factor is the advantage in speed to market. Speed to market typically refers to the amount of time it takes for a product to go from being a concept to being on the retailer's selling floor (Sorescu & Spanjol, 2008). With consumers' increasing demand for faster availability of fashion apparel products, speed to market is growing in importance to T&A manufacturers' business success (Lu & Dickerson, 2012). Innovation in technology, nearshoring, and supply chain integration and acceleration enhance the ability for speed to market with 'Made in the USA' T&A (Oh & Kim, 2007). Studies show that countries in the Western Hemisphere, such as Canada, particularly prefer 'Made in the USA' T&A because of the shorter delivery time and quicker response to changing market trends than imports from Asia (Leamer & Levinsohn, 1995). For example, whereas it takes approximately 25–30 days on average to ship T&A made in Asia to Canada and Mexico by sea, the shipping time between the United States and these

two countries takes no more than two days (Andersson et al., 2018). Further, the benefits of faster speed to market are reflected in T&A companies' financial performance as well. Yu and Kim (2018) observed that near-sourcing 'Made in the USA' apparel products could result in higher profitability and better product assortment for fashion companies.

The third factor is lower compliance risk. While sourcing T&A from low-wage developing countries often can offer a more competitive price, these countries also involve relatively higher compliance risks, ranging from factory safety to various labor practices (Barua et al., 2018; Lu, 2018). In comparison, thanks to the country of origin image effect, stricter regulations, and more effective law enforcement, the U.S. T&A manufacturers are regarded as more 'environmentally and socially responsible' (Boyd et al., 2007; Turker & Altuntas, 2014). For example, based on a survey of nearly 30 executives from leading the U.S. fashion companies in 2018, Lu (2018) found that respondents saw apparel 'Made in the USA' involve minimal risks in complying with social and environmental regulations enacted both in the U.S. and internationally. Many U.S. T&A manufacturers today also emphasize sustainability as a core value for the promotion of their brand image (Desai et al., 2012; Curran, 2016). Additionally, the fact that labor-intensive T&A manufacturing processes have been substantially moved overseas or automated makes it less a daunting task for the U.S. T&A manufacturers to address the same type of social responsibility problems facing their counterparts in the developing world (Dicken, 2015).

Additionally, trade policies also have played a unique and important role in supporting the making and exporting of the U.S. T&A products. Notably, most free trade agreements (FTAs) enacted in the United States adopted the so-called 'yarn-forward' rules of origin for apparel products, which strictly require that garments qualified for the preferential duty treatment provided by the agreement have to use yarns and fabrics produced in the respective FTA region (Elliott, 2016; Khan, 2018). Some studies find that the 'yarn-forward' rule in NAFTA and CAFTA-DR, in particular, have created a de facto captured export market for 'Made in the USA' textiles in Mexico and countries in South and Central America as these developing countries have limited capacity in making capital-intensive yarns and fabrics (Lim et al., 2009; Oh & Kim, 2007). According to a 2016 study by the U.S. International Trade Commission, the U.S. saw a 3.6% increase in T&A exports attributed to the economic effects of 'yarn-forward' rules in bilateral and regional FTAs in 2012 (USITC, 2016).

Challenges facing T&A 'Made in the USA' and their export

Despite the positive factors, the U.S. T&A manufacturers still face several major challenges in exporting.

The first disadvantage is the cost. As the United States is a high-wage level developed economy, T&A 'Made in the USA' are not typically regarded as price competitive (Yu & Kim, 2018). Labor costs in the United States are

Table 2. The world's top 10 T&A importers in 2018: average applied tariff rate unit: %.

Rank	Textiles		Apparel	
	Importers	Tariff rate	Importers	Tariff rate
1	European Union	6.54	European Union	11.48
2	United States	7.95	United States	11.65
3	China	9.60	Japan	9.02
4	Vietnam	9.56	Hong Kong	0.00
5	Bangladesh	19.52	South Korea*	12.50
6	Japan	5.35	Canada*	16.51
7	Hong Kong	0.00	China	16.01
8	Indonesia	11.46	Russia	7.80
9	Mexico*	9.78	Switzerland	3.97
10	Turkey	6.54	Australia	4.60

Data source: WTO (2019).

*Refers to a free trade agreement partner of the United States as of January 2020 (OTEXA, 2019a).

considerably higher than most countries in the world, causing a disadvantage in labor-intensive apparel manufacturing, in particular (Freund et al., 2018). Harris (2018) further observed that the U.S. manufacturers, including those in the apparel sector, have substantially moved production offshore over the past decades due to the cost considerations, even if relocation sometimes means a sacrifice of product quality.

Even for the relatively more capital and technology-intensive textile manufacturing, 'Made in the USA' also face disadvantages in the competition with those made elsewhere in the world, such as Asia. Several studies found that stricter environmental regulations are among the various factors that result in a cost disadvantage of the U.S. textile manufacturing in the world marketplace (NCTO, 2019). As a result, although the value of the U.S. textile exports to the world increased by 10.6% from 2008 to 2018, its market share nevertheless dropped from 5.0% to only 4.4% during the period (WTO, 2019). The lost U.S. market shares went to more price-competitive exporters in Asia, such as China, India, and Vietnam.

The second factor is the regional trade patterns of T&A products. Regional trade pattern refers to a popular phenomenon that a country intends to import T&A products from its neighboring countries rather than those that are geographically far away (Islam, Bloch, & Salim, 2014). Both economic factors, such as the tiered economic development stage among countries in the same region, and policy factors, such as free trade agreements, contribute to the formation of regional trade patterns (Lu, 2015). In general, three primary T&A regional supply chains are operating in the world today:

One is the Asia regional T&A supply chain, within which more economically advanced Asian countries (such as Japan, South Korea, and China) supply textile raw material to the less economically developed countries in the region (such as Bangladesh, Cambodia, and Vietnam). Based on relatively lower wages, the less developed countries typically undertake the most labor-intensive processes of apparel manufacturing and then export finished apparel to major consumption markets around the world (Goto, 2017). The second is the EU regional T&A supply chain. Within this regional supply chain, developed countries in Southern and Western Europe, such as Italy, France, and Germany, serve

as the primary textile suppliers. Regarding apparel manufacturing in the EU, products for the mass markets are typically produced by developing countries in Southern and Eastern Europe such as Poland and Romania, whereas high-end luxury products are mostly produced by Southern and Western European countries such as Italy and France (Lu, 2018; Textile Outlook International, 2018). The third one is the Western Hemisphere T&A regional supply chain. Within this regional supply chain, the United States serves as the leading textile supplier, whereas developing countries in North, Central and South America (such as Mexico and countries in the Caribbean region) assemble imported textiles from the United States or elsewhere into apparel. The majority of clothing produced in the area is eventually exported to the United States or Canada for consumption (Lu, 2015).

While the U.S. T&A exporters have benefited from the Western Hemisphere supply chain, the regional trade patterns in Asia and the EU, however, constitute significant trade barriers hurting the U.S. T&A exports to these regions. For example, despite the fast-growing import demand for yarns and fabrics from apparel exporting countries in Asia, the value of the U.S. textile exports to the Asia region suffered a -2.2% average compound annual growth (CAGR) between 2010 and 2018 (UNComtrade, 2019). Likewise, over the same period, the value of the U.S. textile exports to the EU grew only 1% annually, compared with a 3.3% annual growth rate of textile exports to Mexico (UNComtrade, 2019).

Another factor is high trade barriers facing the U.S. T&A exports and a lack of free trade agreements between the United States and its trading partners. Trade barriers, such as tariffs and various non-tariff barriers, increase a manufacturer's production costs, and limit its ability to export (Imbruno, 2016). While the U.S. trade barriers overall are among the world's lowest, the trade restrictions facing the U.S. exports, including T&A products, often are much higher (Jackson, 2018). For example, as shown in Table 2, over half of the world's top ten textile importers set an import tariff rate higher than the United States in 2018, which significantly hindered the export potential of the U.S. textile products to these markets (WTO, 2019). Similarly, whereas the United States plays a relatively minor role in apparel exports because of cost disadvantages, the high tariff barriers make 'Made in the USA' garment even less price competitive compared with locally made products (WTO, 2019).

On the other side, trade agreements could serve as effective ways to help lower trade barriers and enhance market access for the U.S. products (Congressional Research Service, 2019a). Unfortunately, except for NAFTA and CAFTA-DR, there have been few U.S. free trade agreements reached with major T&A trading partners in Asia and Europe. The escalating U.S.-China, the U.S.-EU, and the U.S.-Mexico trade relations due to the Trump administration's tariff actions make it even more challenging for the U.S. T&A products to compete in these foreign markets on a level playing field (Congressional Research Service, 2019b).

Summary

Based on examining related trade and firm theories and the existing literature, this study proposes the following three hypotheses regarding the export behaviors of the U.S. T&A manufacturers and related affecting factors:

Hypothesis 1: The U.S. textile manufacturers are more likely to engage in exports than the U.S. apparel manufacturers. Based on the comparative advantage trade theory, Porter's 'five forces model,' and the specific nature of the U.S. economy, the United States possesses a competitive advantage in textile production and exports but suffers a competitive disadvantage in apparel production and exports (Lu & Dickerson, 2012). The U.S. textile manufacturers also can more directly benefit from the regional trade patterns in the Western Hemisphere and the special trade policy arrangements in NAFTA and CAFTA-DR (Lu, 2015). Additionally, the U.S. textile manufacturers are more likely to offset the cost disadvantage through automation than apparel manufacturers (Dickerson, 1999).

Hypothesis 2: The U.S. T&A manufacturers larger in size are more likely to export than smaller ones. As explained by the resource-based view theory, larger U.S. T&A manufacturers are more likely to obtain resources, from financial, legal, and human talents, to explore the overseas market, control the compliance risk and overcome the high trade barriers facing the U.S. T&A products in the international market. Such required resources, however, are often beyond the affordability of companies smaller in size (Aaby & Slater, 1989; Baldauf et al., 2000).

Hypothesis 3: The U.S. T&A manufacturers are more likely to export to the Western Hemisphere than other regions in the world. Based on the regional T&A trade patterns and the specific U.S. trade policy arrangements, the U.S. T&A manufacturers seem to have more incentives and competitive advantages in exporting to the Western Hemisphere, including those members of NAFTA and CAFTA-DR. For other regions of the world, the U.S. T&A products are either facing higher trade barriers or difficult to compete with locally made products (Jackson, 2018; Lu 2018; WTO, 2019).

Method and data

Data source

Data for the study came from the 'Made in the USA' database developed and managed by the Office of Textiles and Apparel (OTEXA) under the U.S. Department of Commerce. This 'Made in the USA' database is the most comprehensive and the only government-run dataset that exclusively focuses on T&A manufacturers (OTEXA, 2019b). Specifically, the database covers detailed production, import and export behavior, and other essential business information of T&A manufacturers based in the United States. Information in the 'Made in the USA' database was self-reported by companies and then verified by OTEXA (OTEXA, 2019b).

This study used the information of all the 122 U.S. T&A manufacturers included in the 'Made in the USA' database as of August 31, 2019. For the purpose of this study, the following variables were collected from the database and then coded accordingly:

- *Textiles*: if a manufacturer reports making textile products (NAICS 313 or 314) =1; if a manufacturer reports making apparel =0³;
- *Size*: if a manufacturer reports having 150 employees or more =1; otherwise =0;
- *Export*: if a manufacturer reports engaged in export =1; otherwise =0;
- *WH*: if a manufacturer reports exporting to the Western Hemisphere =1; otherwise =0⁴

Data analysis

To examine the proposed hypotheses empirically, the data analysis for the study includes two parts:

First, a logistic regression analysis was conducted to evaluate the impact of product category and firm size on the U.S. T&A manufacturers' export behaviors (i.e. hypotheses 1 and 2). Because of the categorical nature of the data used in this study, logistic regression is a preferred method to evaluate the quantitative relationship between variables (Leech et al., 2014). Using ordinary multiple linear regression for categorical dependent variables, instead, may result in biased estimations (Wooldridge, 2016). Studies that evaluate the quantitative relationship between categorical variables also widely adopt logistic regression (such as Javalgi et al., 2000 and Evangelista et al., 2019).

$$\text{Log}(\text{Export}) = \beta_1 \cdot \text{Textiles} + \beta_2 \cdot \text{Size} + c \quad (1)$$

Specifically, as illustrated in Equation (1), for the logistic regression, the variable *Export* was used as the dependent variable, which measures whether a T&A manufacturer exports its products. The model included two independent variables:

The first independent variable was *Textiles*, which measures whether the U.S. T&A manufacturer was making textile or apparel products. Based on Hypothesis 1, we expect the coefficient β_1 to be a positive number, meaning textile manufacturers should be more likely to engage in exports than those making apparel products.

The second independent variable was *Size*, which measures the size of the U.S. T&A manufacturer. Based on Hypothesis 2, we expect the coefficient β_2 to be a positive number, meaning T&A manufacturers larger in size should be more likely to engage in exports than smaller ones.

Additionally, in Equation (1), c refers to the constant.

Second, a contingency analysis of variables *Export* and *WH* was conducted to evaluate whether Western Hemisphere is a preferred export market for the U.S. T&A manufacturers that engaged in exports (i.e. hypothesis 3). Also known as the Chi-Square test of independence, contingency analysis is commonly adopted to evaluate the

relationship between categorical variables, which is the case in this study (Moore et al., 2018).

Results and discussions

Descriptive analysis

Tables 3–5 provided a summary of the 122 U.S. T&A manufacturers collected from the OTEXA ‘Made in the USA’ database. Of these manufacturers, 59.0% ($N=72$) reported making textiles only, 22.1% ($N=27$) reported making apparel only, and 18.9% ($N=23$) reported making both products. The result that textile producers accounting for a larger share among these firms was consistent with the macro statistics in Table 1, which also showed that textile production was larger in scale than apparel production in the United States today (BEA, 2019). The result also suggested that vertical integration, i.e. a single company owning production facilities of successive stages of T&A production, currently was not a popular business model among the U.S. manufacturers, as the techniques and resources used to make textiles and apparel products were substantially different (Dickerson, 1999; Lu & Dickerson, 2012).

As shown in Table 3, of all the 122 U.S. T&A manufacturers collected from the OTEXA ‘Made in the USA’ database, as many as 70.5% ($N=86$) reported engaged in export. Together with the rising value of the U.S. T&A exports in recent years (Table 1), this result indicated that export had become an important economic activity of the U.S. T&A manufacturers today. Regarding the particular export behaviors of the U.S. T&A manufacturers collected from the database, several patterns were worth noting:

First, the U.S. manufacturers that engaged in making textile products seem to engage in exports more actively than those that make apparel products only. As many as 80% ($N=76$) of the U.S. textile manufacturers collected from the OTEXA ‘Made in the USA’ database reported selling products overseas compared with merely 37.0% ($N=10$) of the U.S. apparel manufacturers that did so. As previous studies suggested, the U.S. textile manufacturers theoretically are more likely to engage in exports than apparel producers because of a mix of factors ranging from the particular nature of the the U.S. economy, the U.S. trade policy arrangement to the regional T&A trade patterns (Freund et al., 2018; Lu, 2015).

Second, the U.S. T&A manufacturers larger in size overall had a higher percentage engaged in exports than those manufacturers smaller in size. As shown in Table 4, as much as 90.0% ($N=27$) of the U.S. T&A manufacturers with over 150 employees (i.e. $size=1$) reported engaging in exports, much higher than only 69.7% ($N=46$) of those manufacturers with less than 150 employees (i.e. $size=0$). This result was consistent with Hypothesis 2, which also suggests that larger firms, in general, are more likely to explore the international markets than smaller ones because of the extra financial, legal and human resources required to do so (Baldauf et al., 2000; Hirsch & Adar, 1974).

On the other hand, it is interesting to note that of the total 122 U.S. T&A manufacturers collected from the

Table 3. Type of the U.S. T&A manufacturers and export behaviors.

Export/type	Textile manufacturers ($textiles = 1$)*	Apparel manufacturers ($textiles = 0$)
% of export	80.0% ($N = 76$)	37.0% ($N = 10$)
% of not export	20.0% ($N = 19$)	63.0% ($N = 17$)

Data source: compiled based on OTEXA (2019b).

*Note: % of export = number of manufacturers that export ÷ total number of manufacturers; ‘textile manufacturers ($textiles = 1$)’ in the table include those companies that make both T&A products.

Table 4. Size of the U.S. T&A manufacturers and export behaviors.

Export/firm size	With < 150 employees ($size = 0$)	With 150+ employees ($size = 1$)	Unknown*
% of export	69.7% ($N = 46$)	90.0% ($N = 27$)	50.0% ($N = 13$)
% of not export	30.3% ($N = 20$)	10.0% ($N = 3$)	50.0% ($N = 13$)

Data source: compiled based on OTEXA (2019b).

*Note: % of export = number of manufacturers that export ÷ total number of manufacturers; ‘unknown’ refers to those manufacturers that did not report their number of employees.

Table 5. Export market of the U.S. T&A manufacturers.

Firm/export market	Western hemisphere ($WH = 1$)	Other regions only ($WH = 0$)
Textile manufacturers*	71.1% ($N = 54$)	28.9% ($N = 22$)
Apparel manufacturers	40.0% ($N = 4$)	60.0% ($N = 6$)
Total	67.4% ($N = 58$)	32.6% ($N = 28$)

Data source: compiled based on OTEXA (2019b).

*Note: Figures in this table only include firms that reported engaged in exports. ‘textile manufacturers ($textiles = 1$)’ in the table include those companies that make both T&A products.

OTEXA ‘Made in the USA’ database, only a small proportion (around 24.6%, $N = 30$) were relatively large firms with 150 or more employees. This result, nevertheless, was consistent with the macro statistics, which also shows that only 11.5% of the U.S. textile mills (NAICS 313), 2.7% of the U.S. textile product mills (NAICS 314), and 1.1% of the U.S. apparel mills (NAICS 315) had 500 or more employees as of 2016 (U.S. Census Bureau, 2020).

Third, Western Hemisphere was a particularly popular export market for the U.S. T&A manufacturers. As indicated in Table 5, of those U.S. T&A manufacturers that reported exporting their products, close to 70% ($N=58$) targeted the Western Hemisphere (i.e. $WH = 1$). In contrast, less than one-third of the U.S. T&A manufacturers chose to export to regions other than the Western Hemisphere only (i.e. $WH=0$). The phenomenon that Western Hemisphere being THE most popular export market was even more obvious among the U.S. textile manufacturers (i.e. $textiles = 1$), of which over 71% reported doing so. These results well match the macro-level trade data, which also reveals that the Western Hemisphere currently was the single largest export market for the U.S. T&A manufacturers (OTEXA, 2019a).

Furthermore, it is important to note that a high percentage of the U.S. T&A manufacturers collected from the OTEXA ‘Made in the USA’ database said they took advantage of free trade agreements enacted between the United States and countries in the region when exporting to the Western Hemisphere, including NAFTA (56.9%, $N=33$) and CAFTA-DR (37.9%, $N=22$). Only less than 40% of the

Table 6. Results of logistic regression.

Variables	Coefficient	SE	Wald	df	p	Exp(B)
Textiles	1.044	0.520	4.032	1	0.045*	2.840
Size	1.413	0.674	4.403	1	0.036*	4.109
Constant	.110	0.416	.069	1	0.792	1.116

* $p < 0.05$,** $p < 0.01$.

U.S. T&A manufacturers that exported to the Western Hemisphere claimed using neither of the two agreements. These results confirmed at the micro-firm level that NAFTA and CAFTA-DR overall had played a positive role in supporting the exports of the U.S. T&A products, as argued by previous studies (Elliott, 2016; Lu, 2015).

Statistical analysis

The statistical analysis was conducted to explore further what factors may affect the U.S. T&A manufacturers' export behaviors and the statistical significance of their impacts.

The study first conducted a logistic regression analysis to evaluate whether and how might product category and firm size affect the U.S. T&A manufacturers' export behaviors.

The regression model was statistically significant at the 99% confidence level ($X^2 = 10.87$, $p = 0.00$). The model explained 16.0% (Nagelkerke R^2) of the variance in the U.S. T&A manufacturers' export behaviors and correctly classified 76.0% of cases. As summarized in Table 6, more specifically:

First, the U.S. manufacturers that produced textile products (i.e. $textiles = 1$) statistically were suggested to be 2.84 times ($\beta_1 = 1.044$) more likely to export than those manufacturers that make apparel products only (i.e. $textiles = 0$) when other factors were held constant (Wald $X^2 = 4.03$, $p = 0.045 < 0.05$). This result supported Hypothesis 1 and suggested that the product category was a significant factor that affected a the U.S. T&A manufacturer's likelihood of engaged in export.

Second, the U.S. T&A manufacturers with more than 150 employees (i.e. $size = 1$) statistically were 4.11 times ($\beta_2 = 1.413$) more likely to engage in export than those with fewer than 150 employees (i.e. $size = 0$) when other factors were held constant (Wald $X^2 = 4.40$, $p = 0.036 < 0.05$). The results also supported Hypothesis 2 and confirmed that the size of the firm was another significant factor that had an impact on the U.S. T&A manufacturer's likelihood of engaged in export.

Then, a contingency analysis was conducted to evaluate the mutual dependency of the attributes of the variables *Export* (i.e. whether the U.S. T&A manufacturer engaged in export) and *WH* (i.e. whether the U.S. T&A manufacturer exported to the Western Hemisphere).

As shown in Table 7, the result of the contingency Chi-Square test suggested that there was a statistically significant association between the variables *Export* and *WH* (Pearson $X^2 = 46.28$, $p = 0.00$) and such a correlation was very strong (Phi and Cramer's $V = 0.616$, $p = 0.003 < 0.01$). Overall, the results supported Hypothesis 3 and suggested that the Western Hemisphere was a preferred export destination for

Table 7. Results of chi-square test.

Indicators	Value	df	p
Pearson Chi-Square	46.282**	1	.000

* $p < 0.05$,** $p < 0.01$.

the U.S. T&A manufacturers than other regions in the world (Freund et al., 2018; Oh & Kim, 2007). The results also reveal the impact of the 'yarn forward' rules of origin in NAFTA and CAFTA-DR, without which the U.S. T&A manufacturers could lose a critical competitive advantage in exporting to the Western Hemisphere given the price disadvantage of 'Made in the USA' compared with similar Asian products (Platzer, 2017).

Conclusions and future research agenda

This study explored the export behaviors of the U.S. T&A manufacturers and related affecting factors. Based on a statistical analysis of the 122 U.S. T&A manufacturers collected from the OTEXA 'Made in the USA' database, the study finds that:

First, the product category was a statistically significant factor that affected the U.S. T&A manufacturer's likelihood of engaged in exports. Specifically, the U.S. textile manufacturers were more likely to engage in exports than those manufacturers that produce apparel products only.

Second, the size of the firm was also a statistically significant factor that affected the U.S. T&A manufacturer's likelihood of engaged in exports. Specifically, the U.S. T&A manufacturers with 150 or more employees were more likely to explore the international markets than those with less than 150 employees.

Third, statistically, the Western Hemisphere was a preferred export destination for the U.S. T&A manufacturers than other regions in the world.

The findings of the study significantly enhanced our understanding of the export behaviors of the U.S. T&A manufacturers and the state of the U.S. T&A industry in today's global economy. The findings also have three important implications:

First, the findings of the study suggest that export has become a critical growth engine supporting the development and expansion of T&A 'Made in the USA' globally. It is important to recognize that for decades, T&A had been regarded as an 'import-sensitive' sector, with the U.S. T&A trade policy primarily focusing on restricting imports to 'protect' domestic manufacturers (Lu & Dickerson, 2012; Minchin, 2012). However, the findings of this study suggest that supporting and encouraging exports could be a more effective way than import restriction to boost the U.S. T&A manufacturing in the twenty first century, as the demand for 'Made in the USA' goes far beyond the U.S. border.

Second, echoing the arguments of previous studies, the findings of the study remind us about the unique significance of the Western Hemisphere to the economic prosperity of the U.S. T&A manufacturers and their export performance (Lu, 2018). As the results of the contingency

analysis revealed, the special supply-chain relationships between the U.S. T&A industry and their partners in the Western Hemisphere underpinned by NAFTA and CAFTA-DR provided an indispensable and irreplaceable export market for T&A 'Made in the USA.' However, beyond the Western Hemisphere, the U.S. T&A manufacturers had demonstrated little interest and limited export capability.

Notably, the Trump administration had threatened numerous times to withdraw the United States from the 25-year old NAFTA due to concerns for its negative impacts on certain industries and their workers in the United States (Platzer, 2017). Even though the United States, Mexico, and Canada recently reached an updated NAFTA (i.e. U.S.-Mexico-Canada Free Trade Agreement, or USMCA), the prospect of its ratification and final implementation remains highly uncertain, affected by a mix of economic, social and political factors (USTR, 2020). Nevertheless, the findings of this study suggest that supporting USMCA and at least do no harm to the existing NAFTA serve the best interests of the U.S. T&A manufacturers, especially from the export perspective.

Additionally, the findings of the study call for more help in support of the U.S. T&A manufacturers' export efforts. For example, the U.S. trade policymakers could consider reaching more free trade agreements, especially with Asian and European countries, to level the playing field and help open new export markets for the U.S. T&A manufacturers. This is critical as countries in the EU and Asia spare no effort in reaching new regional trade agreements and enhancing regional economic integration, which could put the U.S. T&A products at a further disadvantage in competing with locally made products in these markets (Lu, 2019).

On the other hand, the U.S. policymakers could consider more efforts to encourage more small and medium-sized (SME) U.S. T&A manufacturers to export their products. As suggested by the findings of the study, the U.S. T&A manufacturers larger in size were more likely to engage in exports. However, statistics show that as many as 49.8% and 53.5% of the U.S. textile mills (NAICS 313 and 314) and the U.S. apparel mills had fewer than five employees as of 2016 (U.S. Census Bureau, 2020). There is great potential to expand the U.S. T&A exports further, should these SMEs were provided with more resources to explore and get access to the international market.

Despite the interesting results, this study also has several limitations that future research might overcome.

First, due to data availability, this study was only able to distinguish between 'textiles' and 'apparel' when exploring the export behaviors of the U.S. T&A manufacturers. However, the unique export behaviors of a particular type of 'textiles' and 'apparel' manufacturers, such as yarn producers, fabric producers, and technical textile producers, could be overlooked. Future studies can continue to explore the export behavior of the U.S. T&A manufacturers in these sub-sectors when such data is available.

Second, while this study illustrated the significance of NAFTA and CAFTA-DR in supporting the export of the U.S. T&A products, the impact of the other U.S. free trade

agreements on T&A 'Made in the USA' remains largely unknown. Notably, as of December 2019, there had been fourteen FTAs enacted in the United States, and nearly all of them included provisions specifically applied to the T&A sector, from rules of origin to tariff elimination schedules (OTEXA, 2019a). Understanding how effectively these trade agreements and their special T&A provisions had supported the export of the U.S. T&A products could improve future policymaking.

Additionally, it could also be interesting to compare the export behaviors between the U.S. T&A manufacturers and their counterparts in other developed economies, such as Japan and Western Europe. As Japan and Western EU countries are at a similar stage of economic development with the United States but involved in respective regional T&A supply chains, both similar and different export behaviors of T&A manufacturers across these countries and related affecting factors could be revealed.

Notes

1. In this study, the 'textile industry' refers to the North American Industry Classification System (NAICS) codes 313 and 314. Related, 'textile firms/manufacturers' refer to those companies that make fibers, yarns, fabrics, and finished textile products (U.S. Census Bureau, 2017). The 'apparel industry' in this study refers to NAICS code 315. Related, 'apparel firms/manufacturers' refer to those companies involved in the business of cutting and sewing of a garment and apparel accessories (U.S. Census Bureau, 2017).
2. In this study, 'Made in the USA' refers to products that are produced in the United States. These products are typically labeled as 'Made in the USA' or alike.
3. When a manufacturer makes both textiles and apparel products, it was coded as '1' in this study.
4. When a manufacturer exports to the Western Hemisphere AND other markets, it was coded as '1' in this study.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Aaby, N. E., & Slater, S. F. (1989). Management influences on export performance: a review of the empirical literature 1978-88. *International marketing review*, 6(4), 7-26. <https://doi.org/10.1108/EUM000000001516>
- Andersson, J., Berg, A., Hedrich, S., & Magnus, K. H. (2018). *Is apparel manufacturing coming home*. McKinsey & Company. <https://www.mckinsey.com/industries/retail/our-insights/is-apparel-manufacturing-coming-home>
- Anstine, J. (2000). Consumers' willingness to pay for recycled content in plastic kitchen garbage bags: A hedonic price approach. *Applied Economics Letters*, 7(1), 35-39. <https://doi.org/10.1080/135048500352068>
- Barney, J. B., & Arikan, A. M. (2001). The resource-based view: Origins and implications. In R. E. Freeman, J. S. Harrison, & M. Hitt (Eds.), *The Blackwell handbook of strategic management* (pp. 124-188). Wiley.
- Barua, S., Kar, D., & Mahub, F. B. (2018). Risks and their management in ready-made garment industry: Evidence from the world's

- second largest exporting nation. *Journal of Business and Management*, 24(2), 75–99.
- Baldauf, A., Cravens, D. W., & Wagner, U. (2000). Examining determinants of export performance in small open economies. *Journal of World Business*, 35(1), 61–79. [https://doi.org/10.1016/S1090-9516\(99\)00034-6](https://doi.org/10.1016/S1090-9516(99)00034-6)
- Boyd, D. E., Spekman, R. E., Kamauff, J. W., & Werhane, P. (2007). Corporate social responsibility in global supply chains: A procedural justice perspective. *Long Range Planning*, 40(3), 341–356. <https://doi.org/10.1016/j.lrp.2006.12.007>
- Bureau of Economic Analysis (BEA). (2019). *GDP by industry*. Retrieved December 30, 2019 from http://www.bea.gov/industry/gdpbyind_data.htm
- Chi, T., Kilduff, P., & Dyer, C. (2005). An assessment of US comparative advantage in technical textiles from a trade perspective. *Journal of Industrial Textiles*, 35(1), 17–37. <https://doi.org/10.1177/1528083705053387>
- Congressional Research Service. (2019a). U.S. trade policy premier: Frequently asked questions. Retrieved December 21, 2019 from <https://crsreports.congress.gov/product/pdf/R/R45148>
- Congressional Research Service. (2019b). Escalating U.S. tariffs: Affected trade. Retrieved December 21, 2019 from <https://crsreports.congress.gov/product/pdf/IN/IN10971>
- Conner, K. R., & Prahalad, C. K. (1996). A resource-based theory of the firm: Knowledge versus opportunism. *Organization Science*, 7(5), 477–501. <https://doi.org/10.1287/orsc.7.5.477>
- Curran, L. (2016). Trade policy and its implications for sourcing fashion goods. In *Handbook of research on global fashion management and merchandising* (pp. 134–155). IGI Global.
- Desai, A., Nassar, N., & Chertow, M. (2012). An exploration of hybrid fast fashion and domestic manufacturing models in relocalised apparel production. *Journal of Corporate Citizenship*, 45, 53–78.
- Dicken, P. (2015). *Global shift: Mapping the changing contours of the world economy* (7th ed.). Guilford.
- Dickerson, K. G. (1999). *Textiles and apparel in the global economy* (3rd ed.). Prentice Hall.
- Elliott, K. A. (2016). Rules of origin in textiles and apparel. In C. Cimino-Isaacs & J. J. Schott (Eds.), *Trans-Pacific partnership: An assessment* (Vol. 104, pp. 139–148). Peterson Institute for International Economics.
- Evangelista, F., Low, B. K., & Nguyen, M. T. (2019). How shopping motives, store attributes and demographic factors influence store format choice in Vietnam: A logistic regression analysis. *Asia Pacific Journal of Marketing and Logistics*, 32(1), 149–168. <https://doi.org/10.1108/APJML-02-2018-0076>
- Freund, K., Roop, M., Colby-Oizumi, H. (2018). *Textiles and apparel: Made in USA... again?* U.S. International Trade Commission. https://usitc.gov/publications/332/working_papers/id_18_055_working_paper_textiles_and_apparel_usa_final_091318.pdf
- Gereffi, G. (1999). International trade and industrial upgrading in the apparel commodity chain. *Journal of International Economics*, 48(1), 37–70. [https://doi.org/10.1016/S0022-1996\(98\)00075-0](https://doi.org/10.1016/S0022-1996(98)00075-0)
- Goto, K. (2017). Development through innovation: The case of the Asian apparel value chain. In *Global innovation and entrepreneurship*. Springer International Publishing.
- Ha-Brookshire, J. E., & Dyer, B. (2009). The impact of firm capabilities and competitive advantages on import intermediary performance. *Journal of Global Marketing*, 22(1), 5–19. <https://doi.org/10.1080/08911760802511329>
- Hamzaoui Essoussi, L., & Linton, J. D. (2010). New or recycled products: How much are consumers willing to pay? *Journal of Consumer Marketing*, 27(5), 458–468. <https://doi.org/10.1108/07363761011063358>
- Harris, C. E. (2018). USA apparel manufacturing and domestic sourcing. In *Contemporary Case Studies on Fashion Production, Marketing and Operations* (pp. 145–162). Springer.
- Hirsch, S., & Adar, Z. (1974). Firm size and export performance. *World development*, 2(7), 41–46. [https://doi.org/10.1016/0305-750X\(74\)90046-1](https://doi.org/10.1016/0305-750X(74)90046-1)
- Hodges, N. J., & Link, A. N. (2018). Prescriptions for growth for US textile and apparel firms. In *Knowledge-intensive entrepreneurship* (pp. 145–162). Springer.
- Imbruno, M. (2016). China and WTO liberalization: Imports, tariffs and non-tariff barriers. *China Economic Review*, 38, 222–237. <https://doi.org/10.1016/j.chieco.2016.02.001>
- Islam, A., Bloch, H., & Salim, R. (2014). How effective is the free trade agreement in South Asia? An empirical investigation. *International Review of Applied Economics*, 28(5), 611–627. <https://doi.org/10.1080/02692171.2014.918940>
- Jackson, J. K. (2016). *US trade with free trade agreement (FTA) partners*. Congressional Research Service.
- Jackson, J. K. (2018). *Trade deficit and U.S. trade policy*. Congressional Research Service.
- Javalgi, R. G., White, D. S., & Lee, O. (2000). Firm characteristics influencing export propensity: An empirical investigation by industry type. *Journal of Business Research*, 47(3), 217–228. [https://doi.org/10.1016/S0148-2963\(98\)00065-4](https://doi.org/10.1016/S0148-2963(98)00065-4)
- Jin, H., Moscardo, G., & Murphy, L. (2020). Exploring Chinese outbound tourist shopping: A social practice framework. *Journal of Travel Research*, 59(1), 156–172. <https://doi.org/10.1177/0047287519826303>
- Khan, M. (2018). *The impact of tariff preference levels on U.S. textile and apparel trade*. U.S. International Trade Commission. https://www.usitc.gov/publications/332/working_papers/id_18_053.html
- Krueger, A. B. (1996). *Observations on international labor standards and trade* (No. w5632). National Bureau of Economic Research.
- Leamer, E. E., & Levinsohn, J. (1995). International trade theory: the evidence. *Handbook of international economics*, 3, 1339–1394.
- Leech, N., Barrett, K., & Morgan, G. (2014). *IBM SPSS for intermediate statistics: Use and interpretation* (5th ed.). Taylor & Francis.
- Levinson, M. (2018). *US manufacturing in international perspective*. Congressional Research Service. <https://fas.org/sgp/crs/misc/R42135.pdf>
- Lim, K. H., Hu, W., Maynard, L. J., & Goddard, E. (2013). US consumers' preference and willingness to pay for country of origin labeled beef steak and food safety enhancements. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroéconomie*, 61(1), 93–118. <https://doi.org/10.1111/j.1744-7976.2012.01260.x>
- Lim, M., Suh, M. W., & Gaskill, L. (2009). Economic analysis of US textile production activities under the North American free trade agreement. *The Journal of the Textile Institute*, 100(7), 612–625. <https://doi.org/10.1080/00405000802125170>
- Lu, S. (2015). Impact of the Trans-Pacific Partnership on China's textiles and apparel exports: A quantitative analysis. *The International Trade Journal*, 29(1), 19–38. <https://doi.org/10.1080/08853908.2014.933686>
- Lu, S. (2018). Trans-Atlantic Trade and Investment Partnership: An opportunity or a threat to the EU textile and apparel industry? *The Journal of the Textile Institute*, 109(7), 933–941. <https://doi.org/10.1080/00405000.2017.1388345>
- Lu, S. (2019). Regional Comprehensive Economic Partnership (RCEP): Impact on the integration of textile and apparel supply chain in the Asia-Pacific region. In B. Shen, Q. L. Gu, & Y. X. Yang (Eds.), *Fashion supply chain management in Asia: Concepts, models and cases* (pp. 21–41). Springer.
- Lu, S., & Dickerson, K. (2012). The relationship between import penetration and operation of the US textile and apparel industries from 2002 to 2008. *Clothing and Textiles Research Journal*, 30(2), 119–133. <https://doi.org/10.1177/0887302X12447680>
- Markowitz, E. (2012). *Made in USA: Six companies that came home*. Inc. Retrieved December 21, 2019 from <http://www.inc.com/ss/made-in-USA-6-companies-that-came-home>
- May-Plumlee, T., & Little, T. J. (1998). No-interval coherently phased product development model for apparel. *International Journal of Clothing Science and Technology*, 10(5), 342–364. <https://doi.org/10.1108/09556229810239333>
- Minchin, T. J. (2012). 'Us is spelled US': The Crafted With Pride campaign and the fight against deindustrialization in the textile and

- apparel industry. *Labor History*, 53(1), 1–23. <https://doi.org/10.1080/0023656X.2012.650429>
- Moen, Ø., & Servais, P. (2002). Born global or gradual global? Examining the export behavior of small and medium-sized enterprises. *Journal of international marketing*, 10(3), 49–72. <https://doi.org/10.1509/jimk.10.3.49.19540>
- Moran, M. (2019). 2019 State of the U.S. textile industry. Retrieved December 21, 2019 from <https://www.textileworld.com/textile-world/features/2019/05/2019-state-of-the-u-s-textile-industry/>
- Moore, M. E., Rothenberg, L., & Moser, H. (2018). Contingency factors and reshoring drivers in the textile and apparel industry. *Journal of Manufacturing Technology Management*, 29(6), 1025–1041.
- National Council of Textile Organizations (NCTO). (2019). NCTO & member companies testify at U.S. International Trade Commission hearing on proposed 301 tariff list. Retrieved December 21, 2019 from <http://www.ncto.org/ncto-member-companies-testify-at-u-s-international-trade-commission-hearing-on-proposed-301-tariff-list/>
- Office of Textiles and Apparel (OTEXA). (2019a). *The export market report*. Retrieved December 21, 2019 from <https://otexa.trade.gov/msrpoint.htm>
- Office of Textiles and Apparel (OTEXA). (2019b). *Made in USA database*. <https://otexa.trade.gov/growamerica/madeinusa.htm>
- Office of the U.S. Trade Representatives (USTR). (2020). *United States-Mexico-Canada Agreement Fact Sheet: Textiles and apparel*. Retrieved December 21, 2019 from <https://ustr.gov/sites/default/files/files/Press/fs/USMCA/USMCA-Textiles.pdf>
- Oh, H., & Kim, E. (2007). Strategic planning for the US textile industry in the post-quota era: Achieving speed-to-market advantages with DR-CAFTA countries. *Journal of Fashion Marketing and Management: An International Journal*, 11(2), 246–269. <https://doi.org/10.1108/13612020710751419>
- Platzer, M. (2017). *Renegotiating NAFTA and U.S. textile manufacturing*. Congressional Research Service.
- Porter, M. E. (1998). Clusters and the new economics of competition. *Harvard Business Review*, 76(6), 77–90.
- Ruffin, R. J. (2017). Ricardo and international trade theory. In *Ricardo and International Trade* (pp. 20–32). Routledge.
- Saki, Z., Moore, M., Kandilov, I., Rothenberg, L., & Godfrey, A. B. (2019). Revealed comparative advantage for US textiles and apparel. *Competitiveness Review: An International Business Journal*, 29(4), 462–478. <https://doi.org/10.1108/CR-03-2018-0025>
- Sirmon, D. G., & Hitt, M. A. (2003). Managing resources: Linking unique resources, management, and wealth creation in family firms. *Entrepreneurship Theory and Practice*, 27(4), 339–358. <https://doi.org/10.1111/1540-8520.t01-1-00013>
- Sorescu, A. B., & Spanjol, J. (2008). Innovation's effect on firm value and risk: Insights from consumer packaged goods. *Journal of Marketing*, 72(2), 114–132. <https://doi.org/10.1509/jmkg.72.2.114>
- Swanson, K. K., & Horridge, P. E. (2002). Tourists' souvenir purchase behavior and retailers' awareness of tourists' purchase behavior in the Southwest. *Clothing and Textiles Research Journal*, 20(2), 62–76. <https://doi.org/10.1177/0887302X0202000202>
- Tate, W. L., Ellram, L. M., Schoenherr, T., & Petersen, K. J. (2014). Global competitive conditions driving the manufacturing location decision. *Business Horizons*, 57(3), 381–390. <https://doi.org/10.1016/j.bushor.2013.12.010>
- Textile Outlook International. (2018). *World textile and apparel trade and production trends: The EU*. Textile Intelligence Limited.
- Turker, D., & Altuntas, C. (2014). Sustainable supply chain management in the fast fashion industry: An analysis of corporate reports. *European Management Journal*, 32(5), 837–849. <https://doi.org/10.1016/j.emj.2014.02.001>
- UNComtrade. (2019). *International trade database*. Retrieved December 21, 2019 from <https://comtrade.un.org/data/>
- United States International Trade Commission (USITC). (2016). Economic impact of trade agreements implemented under trade authorities procedures, 2016 Report. Retrieved December 21, 2019 from <https://www.usitc.gov/publications/332/pub4614.pdf>
- U.S. Census Bureau. (2017). *North American Industry Classification System*. Retrieved December 21, 2019 from <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2017>
- U.S. Census Bureau. (2020). *Statistics of U.S. businesses*. Retrieved December 21, 2019 from <https://www.census.gov/programs-surveys/subs.html>
- Vlosky, R. P., Ozanne, L. K., & Fontenot, R. J. (1999). A conceptual model of US consumer willingness-to-pay for environmentally certified wood products. *Journal of Consumer Marketing*, 16(2), 122–140. <https://doi.org/10.1108/07363769910260498>
- Yu, U. J., & Kim, J. H. (2018). Financial productivity issues of offshore and “Made-in-USA” through reshoring. *Journal of Fashion Marketing and Management: An International Journal*, 22(3), 317–334. <https://doi.org/10.1108/JFMM-12-2017-0136>
- World Trade Organization (WTO). (2019). Trade and tariff data. Retrieved December 21, 2019 from https://www.wto.org/english/res_e/statis_e/statis_e.htm
- Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach*. Nelson Education.